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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,273	12/03/2003	Frederick A. Perner	10014286-1	4834

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EXAMINER

NGUYEN, VAN THU T

ART UNIT PAPER NUMBER

2824

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/727,273	PERNER ET AL.	
	Examiner	Art Unit	
	VanThu Nguyen	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-30 is/are rejected.
- 7) ☒ Claim(s) 7-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/03/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

1. Claims 1-30 are pending.
2. A telephone conversation was made to Applicants' attorney, Steven E. Dicke, on June 10 regarding Restriction/Election requirement. Group I, claims 1-16, and 22-30 was elected, and Group II, claims 17-21 was withdrawn from further consideration. However, after performing a search, Examiner found prior art references, which can be applied for rejections of both groups. Therefore, Groups I and II are rejoined for examination.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: METHOD AND APPARATUS FOR SENSING AND DETECTING OPENED/SHORTED/NORMAL MAGNETIC CELLS, WHEREIN THE RESISTANCE OF OPENED/SHORTED MAGNETIC CELLS BEING IN BETWEEN RESISTANCE VALUES "0" AND "1" OF NORMAL CELLS.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 9-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Perner (U.S. Patent 6,504,779).

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The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Perner discloses, in FIG. 1-7, a magnetic memory (10, see FIG. 1) comprising:

an array of memory cells configured to provide resistive states (12, see FIG. 1);

and

a read circuit (22, see FIG. 1) configured to sense a resistance through a memory cell in the array of memory cells to obtain a sense result and categorize the sense result into one of at least three different categories (short, hi/lo limits, open) comprising a middle category (hi/lo) situated between the resistive states (short, open).

(See entire specification)

Regarding claims 2-6 and 9-13, see entire specification disclosed in Perner with low resistive state being shorted memory cells, high resistive state being opened memory cells, and middle or dubious category being memory cells within normal range, which store either values "0" or "1".

Regarding claim 14-16, they are rejected under U.S.C. 102(e) since they recite similar limitations as in claims 1-6 and 9-13.

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Regarding claim 17, Perner discloses, in FIGS. 1 and 7, a magnetic memory (10, see FIG. 1), comprising:

a memory cell (12, see FIG. 1); and

a read circuit (22, see FIG. 1) configured to sense a resistance through the memory cell to obtain a sense result and provide immediate calibration if the sense result indicates a shorted memory cell and if the sense result indicates an open memory cell (Skip Address if $\frac{1}{4} AVT \leq t \leq 4 AVT$, see FIG. 7 (cont.)), and delayed calibration if the sense result indicates the resistance is greater than a shorted memory cell and less than a low resistive state of the memory cell and if the sense result indicates the resistance is less than an open memory cell and greater than a high resistive state of the memory cell (Halt Read if $\frac{1}{2} AVT \leq t \leq 2 AVT$, see FIG. 7 (cont.)).

Regarding claims 18-21, see entire specification disclosed in Perner with low resistive state being shorted memory cells, high resistive state being opened memory cells, and middle or dubious category being memory cells within normal range, which store either values "0" or "1".

Regarding claims 22-30, they recite similar limitations as in claims 1-6, 9-21 except they are drafted into method format. Therefore, they are rejected under U.S.C. 102(e) under the same rationale.

Allowable Subject Matter

6. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowability:

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The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Perner (US 6,504,779), Perner et al. (US 6,584,589) and Smith et al. (US 6,898,134) taken individually or in combination, do not teach the claimed invention having the following limitations, in combination with the remaining claimed limitations:

i) where the read circuit is configured to provide a read operation comprising multiple sense operations to obtain the sense result, where the sense result from a shorted memory cell is categorized into the middle category; or

ii) where the read circuit is configured to provide a read operation comprising multiple sense operations to obtain the sense result, where the sense result from an open memory cell is categorized into the middle category.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 13, 2005



VanThu Nguyen
Primary Examiner
Art Unit 2824